



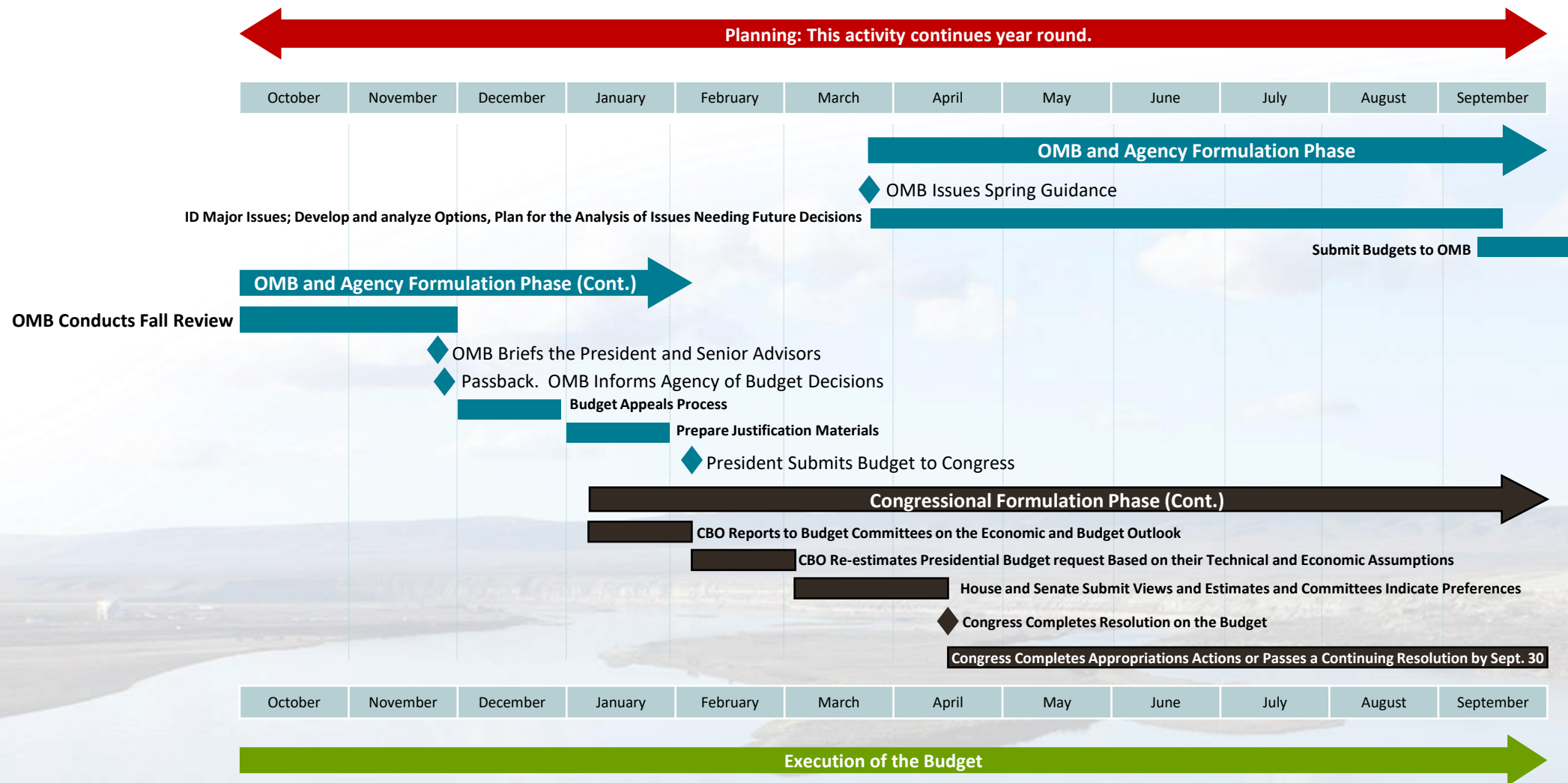
THE HANFORD SITE

Fiscal Year 2023 Hanford Priorities Workshop

July 15, 2021

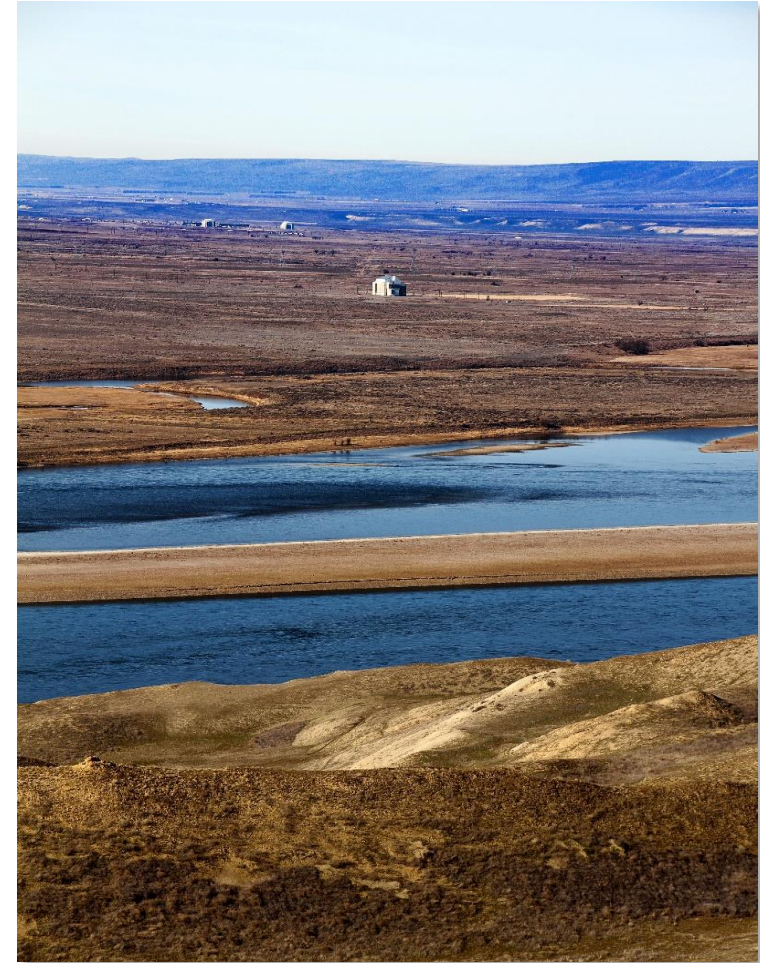
- DOE fiscal year 2022 planned work
 - Office of River Protection (ORP)
 - Richland Operations Office (RL)
- Public input on fiscal year 2023 priorities
- Questions and answers

Budget and Planning Timeline



*During OMB's Agency Formulation Phase, Budget Allocations are Embargoed and **NOT** Releasable Outside of the Administration

- Deliver safe and secure operations
- Manage, treat and disposition tank waste
- Stabilize aging structures
- Demolish retired facilities
- Remediate waste sites
- Treat contaminated groundwater



A cocooned reactor near the Columbia River

Office of River Protection (ORP) Budget Profile

\$ in thousands

PBS	PBS Title	FY 2021 Enacted	FY 2022 President's Request
ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	784,000	817,642
Tank Farms		784,000	817,642
ORP-0014A	LLW Offsite Disposal	0	7,000
LLW Offsite Disposal		0	7,000
ORP-0060	LBL / Direct-Feed LAW	786,000	586,000
ORP-0060	High-Level Waste Facility	25,000	60,000
ORP-0060	Pretreatment Facility	0	20,000
Waste Treatment and Immobilization Plant (WTP)		811,000	666,000
ORP-0070	WTP Commissioning	50,000	50,000
Total	Office of River Protection Funding Summary	1,645,000	1,540,642

FY = fiscal year
 PBS = project baseline summary
 LAW = low-activity waste
 LBL = Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory
 LLW = low-level waste

- Safe and secure operations
- Direct-Feed Low-Activity Waste (DFLAW) commissioning
- Double-shell tank space management
- Single-shell tank retrievals



Low-Activity Waste Facility manipulator arm



Integrated Disposal Facility upgrades (RL activity)

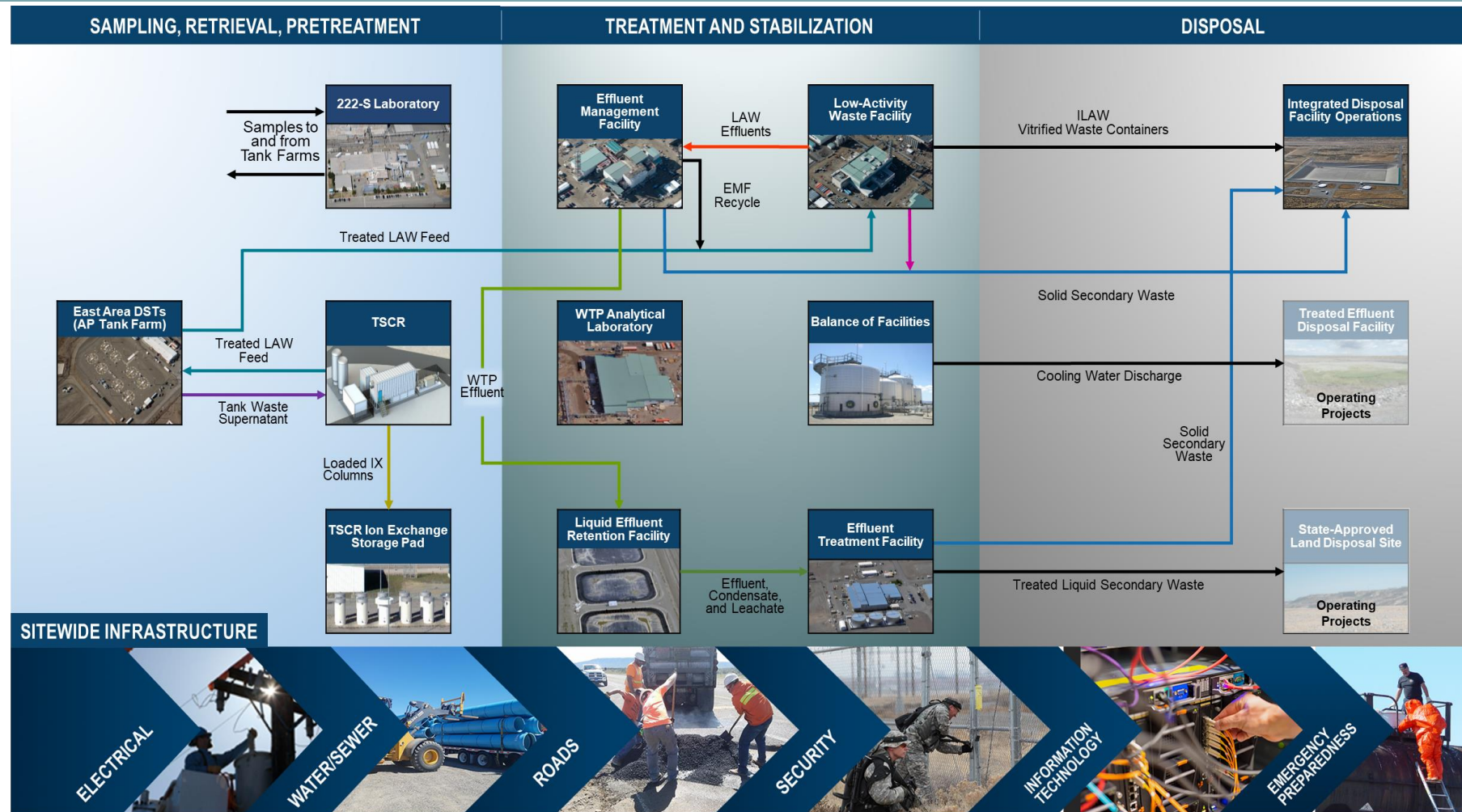


Tank-Side Cesium Removal system



242-A Evaporator

- Provide operations and project support
- Perform facility preservation activities for pretreatment facility
- Complete startup and commissioning activities related to DFLAW and its facilities
 - Tank-Side Cesium Removal system operations
 - Effluent Treatment Facility (ETF) and Liquid Effluent Retention Facility (LERF) upgrades and operations
 - 222-S Laboratory operations and upgrades to support tank farms and DFLAW waste samples
 - AP Tank Farm double-shell tank upgrades to feed Tank-Side Cesium Removal system
- Continue progress toward important cleanup activities required by the Amended Consent Decree and Tri-Party Agreement, such as single-shell tank retrievals in the A/AX Tank Farms
- Advance design for the High-Level Waste Facility



DST = double-shell tank
 EMF = Effluent Management Facility
 ILAW = immobilized low-activity waste
 IX = ion exchange

LAW = low-activity waste
 TSCR = tank-side cesium removal
 WTP = Waste Treatment and Immobilization Plant



Tank-Side Cesium Removal system interior



Low-Activity Waste Facility melter

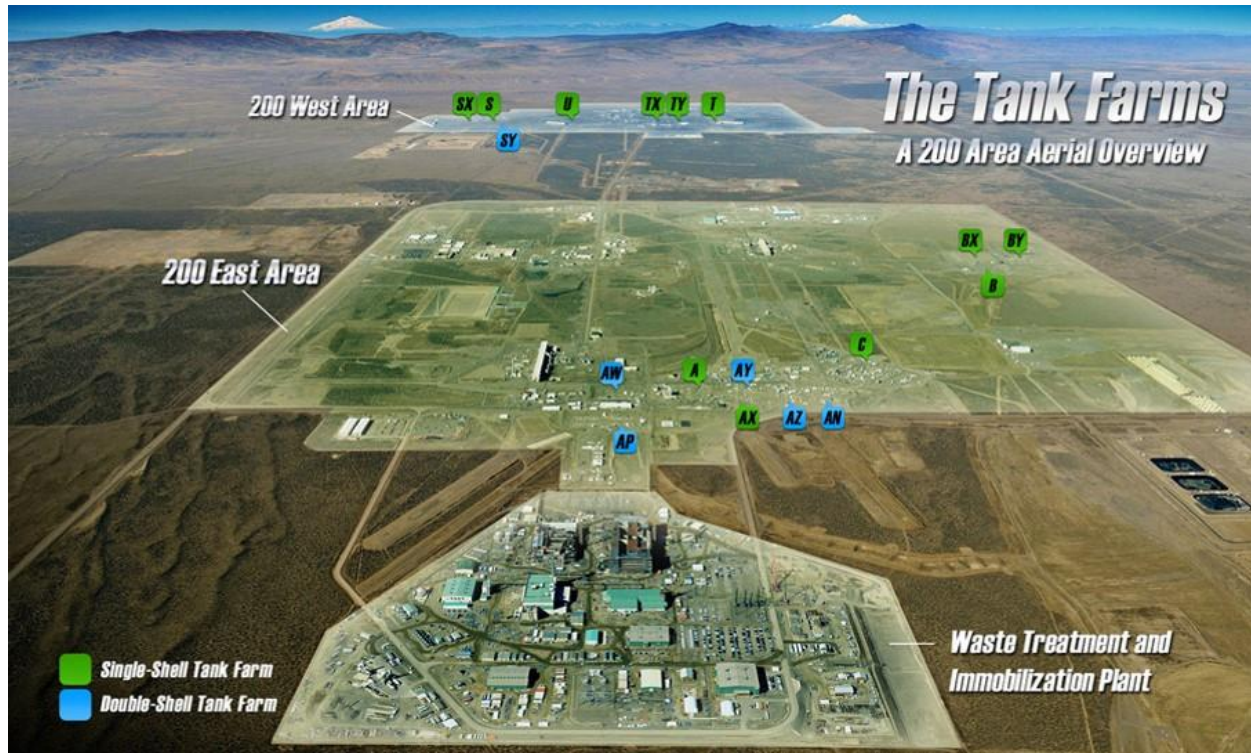


Low-Activity Waste Facility



Effluent Management Facility

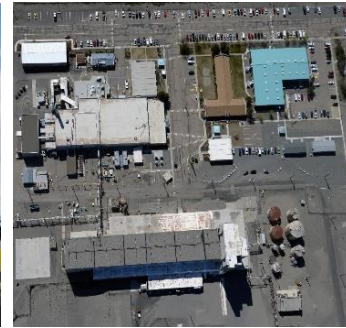
- Maintain Tank Farms in a safe manner, protective of the workers, public and the environment
- Continue tank monitoring and tank integrity activities



LERF basins and the ETF



242-A Evaporator



222-S Laboratory



Consolidated control room

Fiscal Year 2023 Tank Farms Maintenance and Infrastructure Priorities

- Effluent Treatment Facility upgrades
- 242-A Evaporator facility repairs
- 222-S Laboratory upgrades
- Construction of additional basin at Liquid Effluent Retention Facility



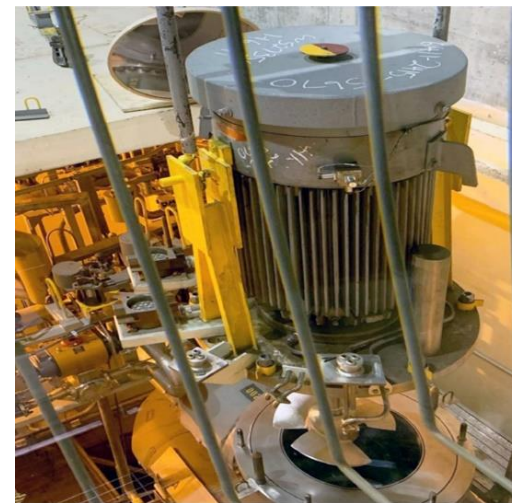
Effluent Treatment Facility upgrades



Basin construction



Transfer line upgrade



Pump replacement

Fiscal Year 2023 Single-Shell Tank Retrievals / Closure Priorities



Single-shell tank retrieval preparations



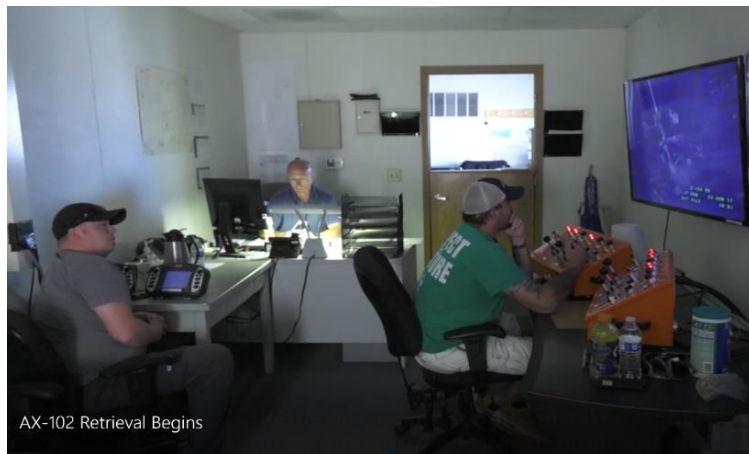
Interim surface barriers



Evapotranspiration basin



AX Farm retrieval



AX-102 Retrieval Begins

AX Farm control trailer



AX Farm retrieval prep

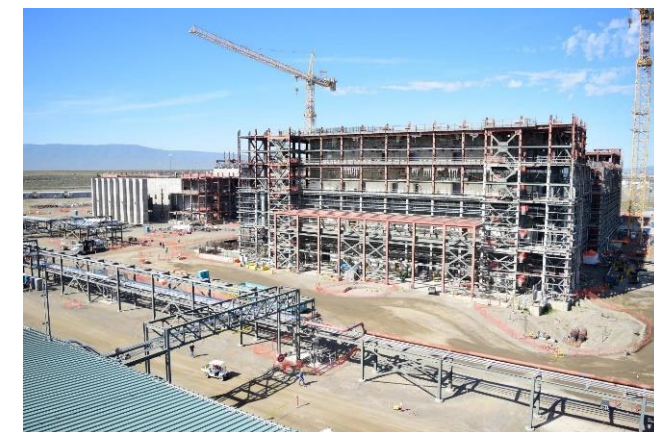
Fiscal Year 2023 Waste Treatment and Immobilization Plant Facility Priorities



High-Level Waste Facility and Pretreatment Facility



High-Level Waste Facility



Pretreatment Facility

\$ in thousands

PBS	PBS Title	FY 2021 Enacted	FY 2022 President's Request
RL-0011	Nuclear Material Stabilization and Disposition – PFP	17,359	0
RL-0013C	Solid Waste Stabilization and Disposition	182,340	220,341
RL-0030	Soil and Water Remediation – Groundwater / Vadose Zone	116,966	139,100
RL-0201	Hanford Sitewide Services	353,335	330,335
RL-0201	22-D-401 – L-888, 400 Area Fire Station	0	15,200
RL-0201	22-D-401 – L-897, Central Plateau Water Treatment Facility	0	12,800
Central Plateau Remediation		670,000	717,776
RL-0040	Nuclear Facility D&D – Remainder of Hanford	101,044	24,000
RL-0041	Nuclear Facility D&D – River Corridor Closure Project	131,435	172,000
River Corridor and Other Cleanup Operations		232,479	196,000
RL-0013C	18-D-404 WESF Modifications and Capsule Storage	15,000	8,000
RL-0020	Safeguards and Security	96,300	96,300
RL-0042	Nuclear Facility D&D – Fast Flux Test Facility	2,500	3,100
RL-0100	Richland Community and Regulatory Support	8,621	5,121
Total	Richland Operations Office Funding Summary	1,024,900	1,026,297

D&D = deactivation and decommissioning PFP = Plutonium Finishing Plant
 FY = fiscal year WESF = Waste Encapsulation and Storage Facility
 PBS = project baseline summary



Waste site removal at 324 Building mock-up



Groundwater treatment



Cesium and strontium capsule dry storage



K East Area support facility demolition



231-Z Plutonium Metallurgy Laboratory

Richland Operations Office

- Provide safe services across the Hanford Site
- Provide critical infrastructure and support for DFLAW
- Perform groundwater pump-and-treat operations
- Continue Columbia River corridor cleanup
- Conduct aging facility maintenance/risk mitigation
- Waste disposition; move cesium and strontium capsules to dry storage

RL Fiscal Year 2023 Aging Facility Risk Mitigation



231-Z Plutonium Metallurgy Laboratory



224-T Transuranic Storage and Assay Facility



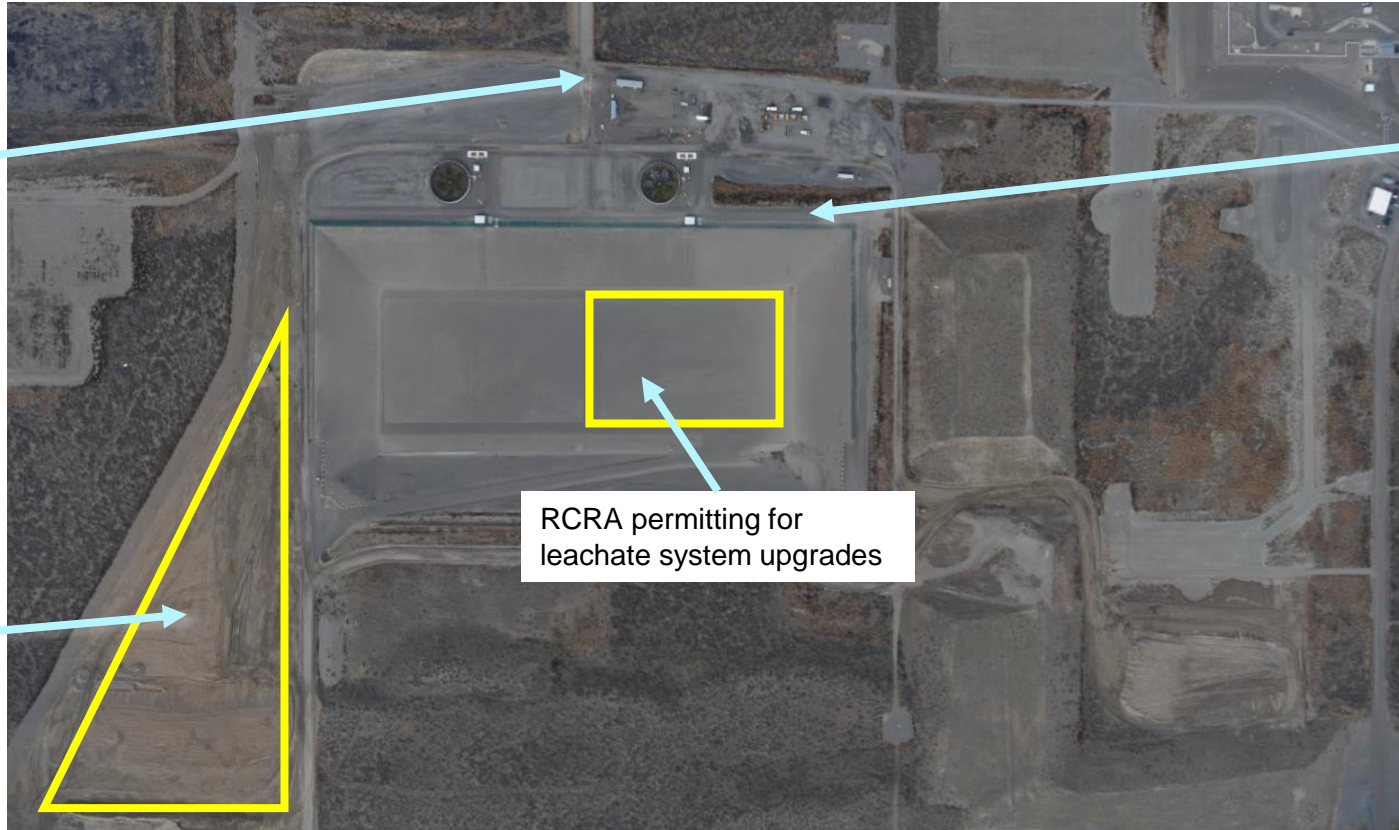
276-C Solvent Handling Building



Integrated Disposal Facility administrative support offices



Completion of Integrated Disposal Facility operational footprint



Integrated Disposal Facility operational footprint (March 2021)



Integrated Disposal Facility upgraded leachate collection system piping and covers (photo of Environmental Restoration Disposal Facility covers with Integrated Disposal Facility receiving a similar upgrade)



324 Building



Moving the first B-Cell remote excavated arm into the 324 Building airlock



Remote excavated arm B-Cell - North



Removing grout from cell floor in the mock-up



Drilling foundation supports outside of building



Before and current pictures of debris in the B-Cell

- Treat 2.2 billion gallons
- Obtain final record of decision



Soil sampling



Chlorine disinfection system

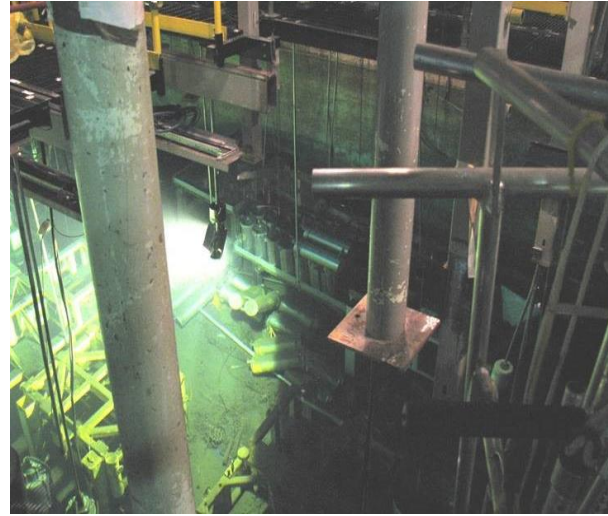


200 West Pump and Treat Facility





K Basin dewatering



100K waste site remediation



K Area support structure demolition



Artist rendering of reactor Safe Secure Enclosure

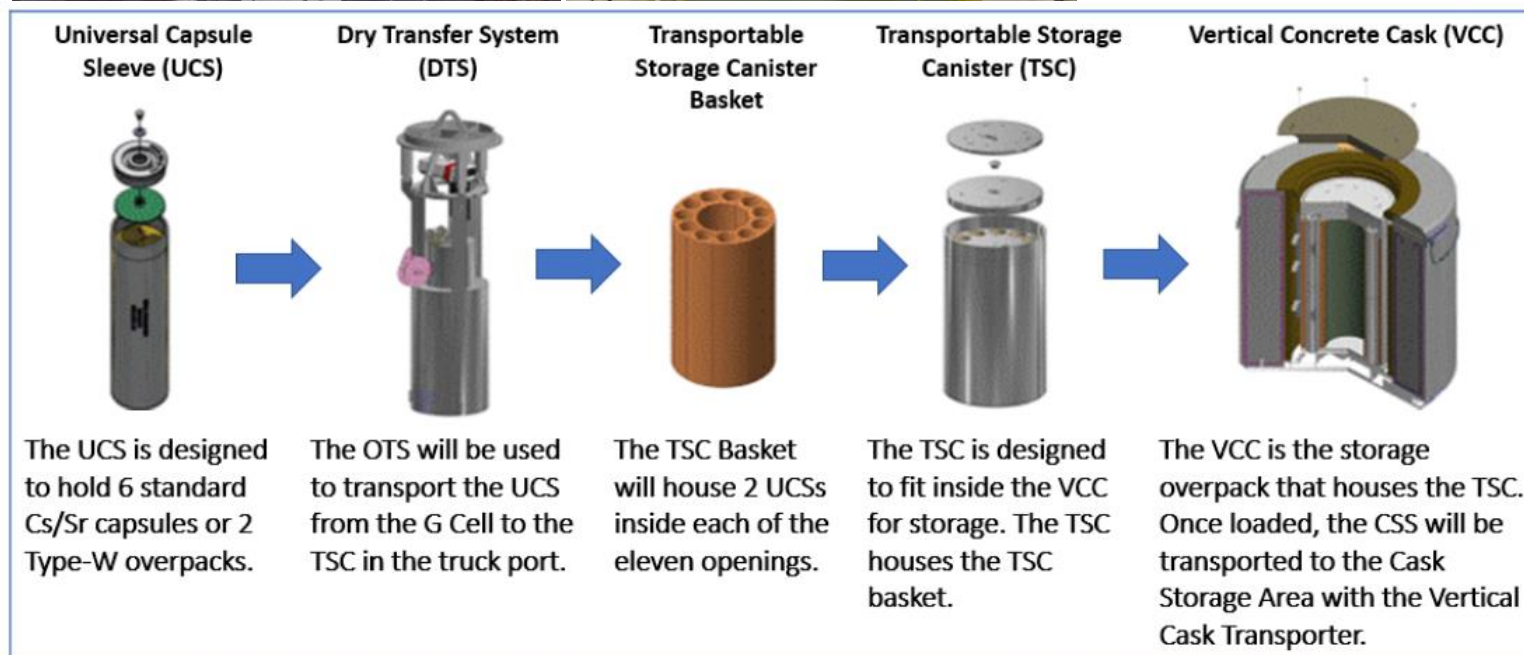
Fiscal Year 2023 – Cesium and Strontium Capsules to Dry Storage



Cesium and strontium capsules stored at the Waste Encapsulation and Storage Facility



Preparing the Waste Encapsulation and Storage Facility for capsule transfer operations



Cask storage system terminology

- Public and worker safety
- Protection of special nuclear materials
- Facility operations
- Long-term stewardship
- Environmental monitoring



Long-term stewardship and environmental monitoring



Public safety



Public safety



Safeguards and security



Industrial and cybersecurity

- Telecommunications
- Power
- Water
- Sewer
- Roads
- Facilities



Roads



Telecommunications



Fleet services



Sewer system



Power



30-day public comment period: July 15 - August 15

Comments written, mailed, or emailed:



CleanupPriorities@rl.gov



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